

Serial No. 10/516,084
Atty. Doc. No. 2002P07513WOUS

In the claims:

1-37 (cancelled).

38. (currently amended) An assembly comprising:

a ceramic heat shield deemed acceptable only in the absence of any crack propagating from an edge of the heat shield toward a center of the heat shield exceeding a defined-predetermined critical length;

a monitoring structure applied to the heat shield and comprising a resonant circuit, the resonant circuit further comprising an electrical conductor attached to the heat shield at a distance equal to the critical length from the edge of the heat shield; and

a monitoring device adapted for wireless interrogation of the monitoring structure via electromagnetic excitation of the resonant circuit;

wherein a crack propagating from the edge of the heat shield toward the center of the heat shield exceeding the critical length will cause a crack in the electrical conductor, thereby changing a resonance of the resonant circuit that is detectable by the monitoring device for identifying the heat shield as defective.

39. (currently amended) The assembly of claim 38, wherein the electrical conductor is formed in the shape of a ring around the center of the heat shield at the critical length distance from the edge, thereby enabling the monitoring structure to monitor an entire surface of the ceramic heat shield.

40. (cancelled).

41. (previously presented) The assembly of claim 38, wherein the monitoring structure is applied to a surface of the heat shield that is not accessible in an installed state in a gas turbine engine.

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42. (cancelled).

43. (new) An assembly comprising:

an electrical conductor applied to a surface of a component, the electrical conductor comprising a coil forming part of a resonant circuit and functioning as an antenna for receiving and responding to an electromagnetic interrogation of the resonant circuit; and

a monitoring device adapted for conducting the electromagnetic interrogation of the resonant circuit;

wherein a crack propagating across the surface of the component will cause a break in the electrical conductor, thereby changing a resonance of the resonant circuit in response to the electromagnetic interrogation that is detectable by the monitoring device for identifying a degraded condition of the component.

44. (new) The assembly of claim 43, wherein the electrical conductor is applied to the surface of the component generally parallel to a circumference of the surface so that an entire area of the surface is monitored for the degraded condition.